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09/923,081	08/06/2001	Scott J.F. Zogg	00CR156/KE	1496

7590 09/19/2006  
Kyle Eppele  
Rockwell Collins, Inc.  
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EXAMINER
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MOORE JR, MICHAEL J

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/923,081

Applicant(s)

ZOGG ET AL.

Examiner

Michael J. Moore, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-12,14 and 16-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-12,14 and 16-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. Claim **10** is objected to because of the following informalities:

Regarding claim **10**, an objection is made to the use of the phrase "capable of" after the word "network" on line 3. This phrase constitutes optional language that does not further limit this claim (See MPEP 2106, II, C).

Appropriate correction is required.

Amendments made by Applicant to obviate the other objections of claims **10 and 14** provided in the previous Office Action are proper and have been entered. These rejections have been withdrawn.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims **1, 3-8, 10-12, 14, and 17-21** are rejected under 35 U.S.C. 102(e) as being anticipated by Krishnarajah et al. (U.S. 2003/0081592) ("Krishnarajah"). *Krishnarajah* teaches all of the limitations of the specified claims with the reasoning that follows.

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Regarding claim 1, “a method for transmitting a file stream using quality of service capable links” is anticipated by the transmission method shown in Figure 4.

“Identifying important bits and less important bits within the file stream, the important bits being those of which corruption will disrupt an entire frame of the file stream” is anticipated by page 4, paragraph [0048], which states that high priority, high quality of service, and/or important bits are identified and appropriately handled without having to treat all of the data in a payload using a higher treatment class as well as page 6, paragraph [0058], which indicates different classes of bits and how unequal error protection is applied to the class of bits based on which bits (important bits) cause corruption to a particular frame.

“Negotiating quality of service parameters for at least two streams wherein each stream is associated with a detected level of interference, wherein one of the two streams has a higher quality of service level based at least in part on the detected level of interference” is anticipated by page 1, paragraph [0007], which states the providing of different services or treatments (different quality of service) to different portions (streams) of a payload based on the importance of the different payload bits as well as Table 2 of page 5, which shows a defined residual bit error ratio (level of interference) that exists for each class of bearer traffic.

“Placing the important bits in the one of the two streams having the higher quality of service level” and “placing the less important bits in a second of the at

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least two streams” is anticipated by step 58 of Figure 4, which maps the groups of bits to different bearers that have different treatments (QoS).

Lastly, “transmitting the at least two streams” is anticipated by the transmission of the stream of packets on the first and second bearers over a communications channel via transmitter 46 as spoken of on page 3, paragraph [0038].

Regarding claim 3, “negotiating different quality of service parameters for each file stream, the negotiated quality of service corresponding to an identified importance of bits within the file stream” is anticipated by page 1, paragraph [0007], which states the providing of different services or treatments (different quality of service) to different portions of a payload based on the importance of the different payload bits.

Regarding claim 4, “wherein the negotiated quality of service parameter is a bit error rate” is anticipated by page 5, Table 2, which shows a defined residual bit error ratio exists for each bearer traffic class.

Regarding claim 5, “wherein the steps of placing important bits and placing less important bits do not include otherwise encoding the important bits” is anticipated by step 58 of Figure 4, which maps the groups of bits to different bearers that have different treatments (QoS).

Regarding claim 6, “wherein lower layers in a communications stack within a transmitting device perform error detection and correction encoding on the file streams according to the negotiated quality of service” is anticipated by page 6, paragraph [0058], which states that AMR CODEC applies error correction to

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Class A bits while tolerating more bit errors (no error protection or lesser degree) in Class B and C bits.

Regarding claim 7, "transmitting the at least two streams over a quality of service capable transmission link" is anticipated by the transmission of the stream of packets on the first and second bearers over a communications channel via transmitter 46 as spoken of on page 3, paragraph [0038].

Regarding claim 8, "wherein the at least two streams are transmitted simultaneously over the quality of service capable transmission link" is anticipated by the transmission of the stream of packets on the first and second bearers over a communications channel via transmitter 46 as spoken of on page 3, paragraph [0038].

Regarding claim 10, "a system for transmitting compressed data" is anticipated by the UMTS (system) shown in Figure 9.

"A network capable of supporting quality of service negotiations" is anticipated by the UTRAN (network) shown in Figure 11 that provides radio bearer services to the radio access bearers, which have respective QoS classes or treatment as spoken of on page 5, paragraph [0054].

"A link capable of supporting quality of service channels, wherein each service channel is associated with a detected level of interference" is anticipated by the radio link between user equipment (UE) and the UTRAN of Figure 11 used for transmission of radio bearer services as well as Table 2 of page 5, which shows a defined residual bit error ratio (level of interference) that exists for each class of bearer traffic.

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Lastly, “a software component for negotiating quality of service parameters with the network, the software component being located above a transport layer of the network, the software component configured for identifying important bits within a file stream and separating the important bits that must be correctly received by the receiving device for a successful transmission and less important bits in two separate file streams having different quality of service parameters” is anticipated by the application program 150 (software component) shown in Figure 13 that uses an AMR CODEC 151 to generate a payload which is divided into different payload classes A, B, and C (important and less important bits) in block 152 and later mapped onto corresponding radio bearers RB1-RBN as spoken of on page 6, paragraph [0060].

Regarding claim **11**, “wherein the network is a wireless network” is anticipated by the network shown in Figure 11 with radio link between user equipment (UE) and the UTRAN.

Regarding claim **12**, “wherein the software component is a software plug-in applied to existing compiled software” is anticipated by the application program 150 (software component) shown in Figure 13 that uses an AMR CODEC 151 to generate a payload which is divided into different payload classes A, B, and C (important bits and less important bits) in block 152 and later mapped onto corresponding radio bearers RB1-RBN as spoken of on page 6, paragraph [0060].

Regarding claim **14**, “a method of transmitting and receiving compressed data” is anticipated by the transmission method shown in Figure 4.

“Identifying gradations of importance of bits within a file stream by identifying bits that must be correctly received by the receiving device for a successful transmission and identifying bit that are able to be discarded or transmitted via lossy compression techniques without detectable signal degradation” as well as “associating bits within the file stream with the identified gradations of importance such that important bits and less important bits are identified” is anticipated by page 4, paragraph [0048], which states that high priority, high quality of service, and/or important bits are identified and appropriately handled without having to treat all of the data in a payload using a higher treatment class as well as page 6, paragraph [0058], which indicates different classes of bits and how unequal error protection is applied to the class of bits based on which bits (important bits) cause corruption to a particular frame.

“Negotiating quality of service parameters for each of a plurality of file streams, wherein each file stream is associated with a detected level of interference, the plurality of file streams equal to a number of gradations of importance” is anticipated by page 1, paragraph [0007], which states the providing of different services or treatments (different quality of service) to different portions of a payload based on the importance of the different payload bits as well as Table 2 of page 5, which shows a defined residual bit error ratio (level of interference) that exists for each class (gradation of importance) of bearer traffic.

“Separating important bits into a first of the plurality of file streams having a lower detected level of interference based on the negotiated quality of service”



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as well as “separating less important bits into remaining file streams according to their respective gradations of importance” is anticipated by step 58 of Figure 4, which maps the groups of bits to different bearers that have different treatments (different error protection, error ratio, QoS, etc.), as well as page 5, Tables 1 and 2, which show different QoS classes of traffic.

“Transmitting the file streams to a receiving device” is anticipated by the transmission of the stream of packets on the first and second bearers over a communications channel via transmitter 46 as spoken of on page 3, paragraph [0038].

“Synchronizing the file streams received by the receiving device” is anticipated by the processing and classification of packets by a packet processor in steps 92 and 94 of Figure 6.

Lastly, “combining the received file streams into a single stream” and “passing the single stream to a device for viewing” is anticipated by the combining of packet bits into a data payload and providing this payload as user data to an application in the receiving host as spoken of on page 3, paragraph [0041].

Regarding claim 17, “negotiating quality of service parameters comprises: negotiating a bit error rate” is anticipated by page 5, Table 2, which shows a defined residual bit error ratio exists for each bearer traffic class.

Regarding claim 18, “wherein negotiating quality of service parameters comprises: negotiating a latency rate and a consistent throughput rate” is anticipated by page 5, Table 2, which shows a defined transfer delay (latency

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rate) and guaranteed bit rate (consistent throughput rate) that exist for each bearer traffic class.

Regarding claim **19**, “wherein separating important bits and separating less important bits does not include encoding the important bits or the less important bits” is anticipated by step 58 of Figure 4, which maps the groups of bits to different bearers that have different treatments (QoS).

Lastly, “wherein lower layers of a communication stack on the network perform error detection and correction encoding according to the negotiated quality of service parameters” is anticipated by page 6, paragraph [0058], which states that AMR CODEC applies error correction to Class A bits while tolerating more bit errors (no error protection or lesser degree) in Class B and C bits.

Regarding claim **20**, “passing the file streams down a communications stack on the network, wherein each layer of the communications stack adds error correction and detection coding consistent with the negotiated quality of service parameters” is anticipated by page 6, paragraph [0058], which states that AMR CODEC applies error correction to Class A bits while tolerating more bit errors (no error protection or lesser degree) in Class B and C bits.

Lastly, “transmitting the streams over a quality of service capable link” is anticipated by the transmission of the stream of packets on the first and second bearers over a communications channel via transmitter 46 as spoken of on page 3, paragraph [0038].

Regarding claim **21**, “wherein synchronizing and combining the received file streams is performed by an embedded component on the receiving device” is

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anticipated by the combining of packet bits into a data payload and providing this payload as user data to an application in the receiving host by a packet processor (embedded component) as spoken of on page 3, paragraphs [0040] and [0041].

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims **9 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnarajah et al. (U.S. 2003/0081592) ("Krishnarajah") in view of Applicant's Admitted Prior Art in the Background Section of the Specification.

Regarding claim **9**, *Krishnarajah* teaches the method of claim **1**.

*Krishnarajah* does not explicitly teach where a received signal quality is improved as much as 2dB to 5dB on noisy transmission channels without causing additional delays in the transmission.

However, *Krishnarajah* does teach how important bits are identified and appropriately handled without having to treat all of the data in a payload using a higher treatment class in order to conserve bandwidth on page 4, paragraph [0048]. *Krishnarajah* also teaches that unequal error protection is employed in a way that is transparent to routers and intermediate nodes so that forwarding speed/performance is not impacted on page 4, paragraph [0048].

Applicant also admits on page 6, paragraph 24, of the Background Section of the Specification, how soft decisions in the lower layers of the communication stack are known to provide 2dB to 5dB improvement in signal quality.

Therefore, it would have been obvious to someone skilled in the art to use the packet classification and unequal error protection teachings of *Krishnarajah* in order to improve the signal quality by 2dB to 5dB.

Regarding claim **16**, *Krishnarajah* teaches the method of claim **14**.

*Krishnarajah* does not explicitly teach wherein the identified bits that may be discarded include sounds beyond the range of human hearing or sounds overwhelmed by other sounds for audio transmissions, white lines or extremely fine detail within an image, white lines between lines of text on a page, and identically shaded pixels within an image.

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However, *Krishnarajah* does teach the dividing of payload data into different classes of treatment based upon importance of the individual bits on page 1, paragraph [0007].

Applicant also admits on page 5, paragraphs 20 and 21, of the Background Section of the Specification, how white lines between lines of text on a page, periods of silence in a telephone signal, white space or identically shaded pixels in a picture, etc. is redundant information removable through compression.

Therefore, it would have been obvious to someone skilled in the art to use the teachings of *Krishnarajah* to identify the above sounds and white lines and identically shaded pixels as less important bits of information in order to allow more important bits of information to be transmitted more efficiently.

### ***Response to Arguments***

7. Applicant's arguments filed 7/11/06 have been fully considered but they are not persuasive.

Regarding claims **1, 10, and 14**, Applicant argues that the defined residual bit error ratio for the different bearer traffic classes shown in Table 2 of *Krishnarajah* is not a detected value.

However, it is held that since the conversational, streaming, interactive, and background bearer classes of traffic shown in Tables 1 and 2 provide differing QoS, that the attributes shown in Table 2 are detected values, as the value of each of these attributes at any given time define the differences between the QoS provided by these classes of traffic.

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Therefore, it is held that the residual bit error ratio of *Krishnarajah* anticipates a detected level of interference.

Regarding claim 9, Applicant argues that the combination of *Krishnarajah* with Applicant's Admitted Prior Art is improper because there is no motivation to combine the references, and that Applicant's Admitted Prior Art teaches away from such a combination.

However, it is held that since Applicants admit, "how soft decisions in the lower layers of the communications stack are known to provide 2dB to 5dB improvement in signal quality, that it would be obvious to someone of ordinary skill in the art to use the packet classification and unequal error protection teachings of *Krishnarajah* to improve the signal quality by this degree.

Regarding claim 16, Applicant argues that the Applicant's description in the "Background of the Invention" section of the specification is not admitted prior art.

However, it is held that information provided in this section of the specification is an admission of prior art regardless of whether Applicant provides a statement of admission.

Generally, the "Background of the Invention" section of the specification provides the current state of the art and the problems in the prior art that Applicant wishes to overcome (See MPEP 608.01[c]). It is Office practice to consider the information provided in this section as admitted prior art.

Further, Applicant refers to this section of the specification as "Admitted Prior Art" on page 7 of the present arguments.

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Therefore, it is held that the combination of *Krishnarajah* with Applicant's Admitted Prior Art teaches the limitations of this claim.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (8:00am - 4:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael J. Moore, Jr.  
Examiner  
Art Unit 2616

mjm MM

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